**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

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| ADAPTIVE SPECTRUM AND SIGNAL ALIGNMENT, INC., | Case No. 2:24-cv-00124-JRG-RSP |
| Plaintiff, | |
| v. | JURY TRIAL DEMANDED |
| CHARTER COMMUNICATIONS, INC., | |
| Defendant. | |

**PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF[1]**

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[1] Unless otherwise noted, all lettered Exhibits are attached to the Declaration of Nicole Glauser, dated Feb. 7, 2025 ("Glauser Dec."), which is filed concurrently herewith.

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# TABLE OF AUTHORITIES

**Cases**

**TABLE OF ABBREVIATIONS**

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|---|---|
| ASSIA or Plaintiff | Plaintiff Adaptive Spectrum and Signal Alignment, Inc. |
| Charter or Defendant[2] | Defendant Charter Communications, Inc. |
| '996 Patent | U.S. Patent No. 7,809,996 |
| '398 Patent | U.S. Patent No. 10,848,398 |
| '654 Patent | U.S. Patent No. 11,050,654 |
| '108 Patent | U.S. Patent No. 11,477,108 |
| '313 Patent | U.S. Patent No. 11,770,313 |
| Asserted Patents | Collectively, the '996, '398, '654, '108, and '313 Patents |
| POSITA | Person of ordinary skill in the art |
| Pooley Dec. | The Declaration of Dr. Matthew Pooley Regarding the Construction of Disputed Claim Terms from U.S. Patent No. 11,770,313, U.S. Patent 10,848,398, and U.S. Patent No. 7,809,996, dated Feb. 7, 2025, filed concurrently herewith. |
| Kramer Dec. | The Declaration of Dr. Richard A. Kramer Concerning Claim Construction of U.S. Patent No. 11,050,654 and U.S. Patent No. 11,477,108, dated Feb. 7, 2025, filed concurrently herewith. |

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[2] ASSIA agreed to dismiss its claims against defendants Charter Communications Operating, LLC, Charter Communications Holding Company, LLC, and Spectrum Management Holding Company, LLC in this case based on certain representations made by Charter. Dkt. 80 in Case No. 2:24-cv-00029-JRG-RSP.

## I.     INTRODUCTION

ASSIA's claim construction positions are well supported by the facts and the law. ASSIA's proposed constructions are consistent with the patent specification and intrinsic evidence and conform to the plain and ordinary meaning understood by POSITAs at the time of inventions. By contrast, Charter aims to generate noninfringement arguments by unduly adding qualifiers and rewriting the claims or arguing, without clear and convincing evidence, that disputed terms are indefinite. ASSIA respectfully requests that the Court reject Charter's proposed constructions, find the disputed terms are not indefinite, and adopt ASSIA's proposed constructions.

## II.     BACKGROUND OF THE TECHNOLOGY

The patents-in-suit protect inventions that improve and optimize electronic communications networks. A common application for electronic communications networks is the delivery of broadband Internet service to homes and businesses. Delivering Internet connectivity to devices within homes and businesses requires the use of wide area networks (WANs) and local area network (LANs). The patents-in-suit address problems related to optimizing both LAN and WAN networks as described below.

**'996 Patent:** The '996 patent generally relates to dynamically controlling system parameters that affect performance in transmissions channels. The '996 patent discloses an invention that "allows for adjustments to the transmission error rate of a communications system using data codewords, without affecting the latency of data transmission through the system between a transmitter and receiver." Ex. A ('996 patent) at 5:41-44. In one embodiment, this is accomplished by "adjusting one or more codeword parameters outside of the interleaver in a typical communication system." *Id.* at 8:8-10. For example, a controller measures transmission error value (MEV) and compares it to a target transmission error value (TEV), and if the MEV

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differs sufficiently from the TEV, the code word composition ratio (CCR) is adjusted accordingly to meet the TEV, "while leaving the latency unaffected (or possibly reduced)." *Id.* at 5:41-56.

**'398 and '313 Patents:** The related '398 and '313 patents explain that conventional communication systems could suffer from low performance because such systems used static adaptation algorithms dependent on the assumptions made by the designer, which could be different from the actual operational environment of the communication system. Ex. B ('398 patent) at 1:35-43, 1:64-2:4, 2:9-14, 4:44-56. The '398 and '313 patents pivot away from static adaptation algorithms in favor of policies that comprises conditions for operation of communication units in the communication system. *Id.* at 2:64-3:9, 3:63-4:9, 4:57-61. A server may determine policies for communications units by analyzing data associated with the operation of communication units and determining the desired policies, *e.g.,* the best policies to achieve optimal operational efficiency. *Id.* at Abstract, 4:6-9, 4:57-61. The policies are communicated to one or more communication units, which then implement the policies. *Id.* at 2:64-3:9.

**'654 Patent:** The '654 patent explains that networks may operate with lower performance than is otherwise possible if information about communication device performance inside the local area network (LAN) is not available to devices outside of the LAN to be centrally analyzed. Ex. D ('654 patent) at 1:27-39, 2:25-30. The '654 patent addresses this problem by using a downloadable agent installed on a machine inside the LAN that collects network performance data and transmits it to a server in the wide area network (WAN) or the cloud. *Id.* at 2:30-36. This allows for a comprehensive analysis of network performance information devices on the network. *Id.* at 2:36-38.

**'108 Patent:** The '108 patent teaches that, traditionally, wide area networks (WANs) are managed and maintained by service providers, such as Internet Service Providers, whereas local

area networks (LANs) are managed by subscribers. Ex. E ('108 Patent) at 1:56-2:8. This presents

challenges with optimizing network settings because some problems and issues exhibited in the

LAN may be related to WAN configurations and settings and, conversely, some problems

exhibited in the WAN may be related to configurations or problems on the LAN side. *Id.* at 2:8-

24. The '108 patent solves this problem by using a management device that jointly collects and

analyzes LAN and WAN information to identify an operational condition and initiates a

management event responsive to the operational condition. *Id.* at 4:5-10.

## III.    PERSON OF ORDINARY SKILL IN THE ART ("POSITA")

Claim terms are viewed from the perspective a POSITA. *Lazare Kaplan Int'l v.

PhotoScribe Tech's, Inc.* 628 F.3d 1359, 1368 (Fed. Cir. 2010). ASSIA contends that, regarding

the '996, '398, and '313 patents, a POSITA would have been "an electrical engineer with at least

a bachelor's degree in electrical engineering or a related discipline, and have at least two years of

experience developing communication systems and solutions." Pooley Dec., ¶ 28; *see id.*, ¶¶ 27,

29 & Exs. G, Z, AA. Regarding the '108 and '654 patents, ASSIA contends that a POSITA "would

have at least a bachelor's degree in electrical engineering, or a related field, with at least two years

of experience developing electronic communications systems. Additional education may serve as

a substitute for a lack of experience and vice versa." Kramer Dec., ¶ 50; *see id.*, ¶¶ 47-49, 51.

## IV.    DISPUTED TERMS OF THE '996 PATENT

**A. "*retransmission overhead control signal*" in the phrase "a controller coupled with the transmitter to receive the input signal from the transmission error value monitor and to further generate a *retransmission overhead control signal* for the transmitter in response to the input signal." ('996 patent, claim 20)**

| ASSIA's proposed construction | Charter's proposed construction |
|---|---|
| A signal for controlling one or more parameters that affect retransmission overhead | Indefinite |

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A POSITA would reasonably understand the term "retransmission overhead control signal" and it is not indefinite under the standard set forth in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) (holding that a patent is invalid for indefiniteness only if "its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainly, those skilled in the art about the scope of the invention"). The intrinsic evidence, including the claim language and the specification, confirms that it refers to "a signal for controlling one or more parameters that affect retransmission overhead."

The term "retransmission overhead control signal" appears in the last clause of asserted claim 20: "a controller coupled with the transmitter to receive the input signal from the transmission error value monitor and to further generate a ***retransmission overhead control signal*** for the transmitter in response to the input signal." Ex. A ('996 patent) at 22:60-64. The plain language of the claims supports ASSIA's construction. Dependent claim 9, for example, states that the retransmission overhead control signal adjusts "at least one of the following parameters: Impulse Noise Protection (INP), and Codeword Composition Ratio (CCR)," which affect retransmission overhead. *Id.* at 21:36-38; Pooley Dec., ¶ 64. Similarly, claim 11 recites a method for "generating a retransmission overhead control signal" that explicitly involves "adjusting the retransmission overhead parameters." '996 patent at 21:43-57; Pooley Dec., ¶ 64.

ASSIA's construction is further supported by a POSITA's understanding. Transmission overhead, or retransmission overhead, is a well-established concept encompassing control data, network routing information, error checking, and retransmissions of user data received in error. Pooley Dec., ¶ 63; Ex. F (Newton's Telecom Dictionary) at ASSIA_CHARTER-00032839. A retransmission overhead control signal therefore adjusts parameters that influence the retransmission overhead, including at the IP layer.

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To a POSITA, the patent specification provides concrete examples of retransmission overhead control signals, including a CCR (Codeword Composition Ratio) adjustment signal and an interleave depth control signal. Ex. A ('996 patent) at 14:50-58; Pooley Dec., ¶¶ 62-64. The CCR adjustment signal adjusts the CCR, which is a "quantity or value that represents the relation between the payload and parity bytes in the applicable FEC [forward error correction] coding scheme." Ex. A ('996 patent) at 4:13-17. The specification explains that the interleave depth control signal is "to adjust the interleave depth to compensate for adjustments to the CCR to maintain the original transmission latency that might otherwise be changed by signal 648 and the FEC coder 612 in transmitter 610." *Id.* at 14:54-58. The signals are depicted in Fig. 6 of the '996 patent which is shown (annotated) below:
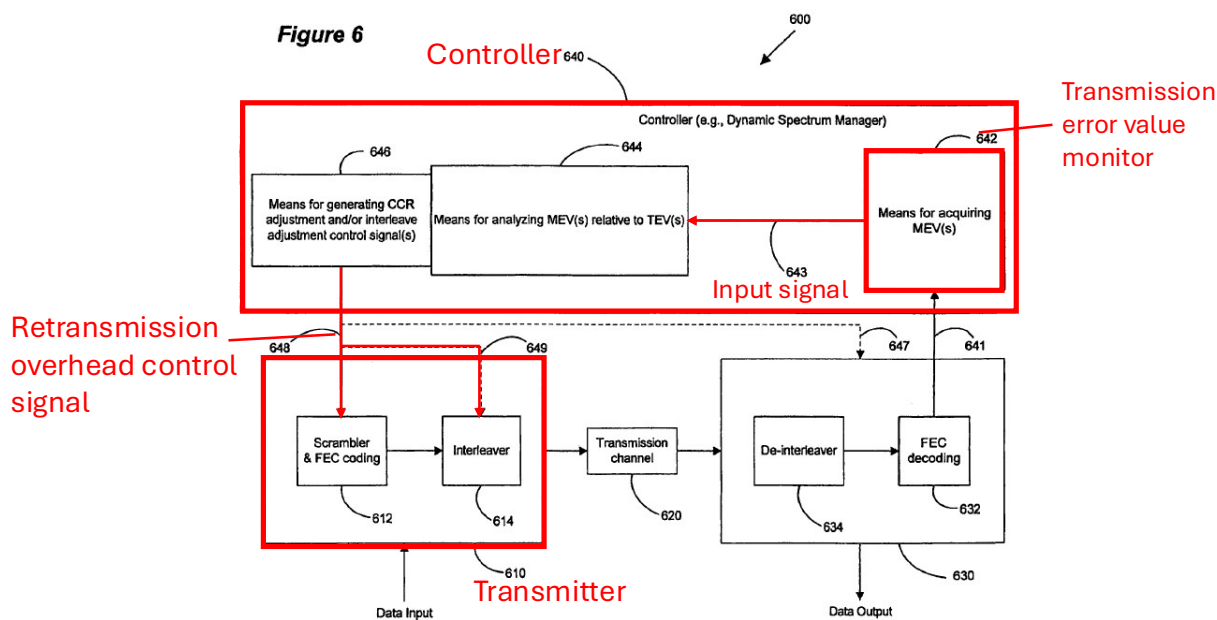


*Id.*, FIG 6. (annotated); Pooley Dec., ¶¶ 61-62.

By inspection of FIG 6, two signals are sent from the claimed "controller" to the claimed "transmitter," denoted by enumerations 648 and 649. As stated in the '996 specification, these correspond to a "CCR adjustment control signal" and "interleave depth control signal,"

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respectively. *Id.* at 14:50-58; Pooley Dec., ¶ 62. Since claim 20 states the "retransmission overhead control signal" is generated by the controller for the transmitter, a POSITA would easily recognize both the "CCR adjustment control signal" and "interleave depth control signal" as "retransmission overhead control signals." Both signals are related to adjustments of codeword parameters which essentially is additional data used to aid in error handling. Pooley Dec., ¶¶ 63-64.

Charter's argument before this Court that "retransmission overhead control signal" is indefinite is undermined by its position in its recently filed IPR petition against the '996 patent. There, Charter and its expert had no problem understanding this term and argued that a POSITA would have no trouble interpreting "retransmission overhead control signal." Ex. G at 48-49; Ex. H at ¶150. For example, in its IPR petition, Charter argued with respect to the Klayman reference that a POSITA would have understood that a signal that revises a parameter that adjusts a "forward error correction parameter on future transmissions" is a "retransmission overhead control signal." Ex. G at 48-49. Charter further argued in its petition with respect to the Agarwal reference that "A POSITA would also have recognized the control signal to be a retransmission overhead control signal because its purpose is to instruct the remote interface to change the forward error code correction length to minimize overhead associated with retransmission of the data." *Id.* at 77-78; Ex. H at ¶ 229. Charter's IPR argument accepting the ability of a POSITA to understand this term underscores the weakness in its indefiniteness position before this Court.

This term is reasonably understood by a POSITA to mean a signal for controlling one or more parameters that affect retransmission overhead and is not indefinite.

### B. "retransmission" ('996 patent, claim 20)

| ASSIA's proposed construction | Charter's proposed construction |
|---|---|
| No construction necessary; plain and ordinary meaning. This term should not be construed separately from "retransmission overhead control signal." | Transmission of the same data that was previously transmitted |

No separate construction is necessary for the term "retransmission" outside of its use within the larger phrase "retransmission overhead control signal." The term "retransmission" is not used independently in the '996 patent; it only appears as part of the noun phrase "retransmission overhead control signal." Pooley Dec., ¶ 69. Thus, there is no basis to construe it apart from the full phrase.

Charter's proposed construction is incorrect from a technical perspective because, in digital communications, a retransmission is not always the same (*i.e.,* an identical copy of) the data previously sent. Pooley Dec., ¶ 70. For example, error correction techniques such as forward error correction (FEC) may enable the receiver to partially recover corrupted data, reducing the need to retransmit the same packets. *Id*. Additionally, adaptive coding and modulation can modify the format of retransmitted data to enhance its chances of successful delivery under varying channel conditions. *Id*. Protocols like TCP may further adjust retransmitted packets by incorporating updated sequence numbers or acknowledgments to ensure proper synchronization between sender and receiver. *Id*. Moreover, when only a portion of the original data is corrupted, retransmissions might involve sending only the missing or erroneous segments, rather than the entire dataset. *Id*.

As such, there is no need to separately define "retransmission" in the context of the phrase "retransmission overhead control signal," especially given Charter's proposed incorrect construction.

C.  **"periodically monitor" / "periodically monitored" ('996 patent, claim 20)**

| ASSIA's proposed construction | Charter's proposed construction |
|---|---|
| "monitor at fixed intervals"/ "monitored at fixed intervals" | Plain and ordinary meaning |

In the context of the '996 patent, "periodically monitor[ed]" means "monitor/monitored at fixed intervals." This interpretation is consistent with the plain English meaning of the word in a technical context and the intrinsic evidence as would be understood by a POSITA. For instance, the Oxford Dictionary of Electronics and Electrical Engineering defines "periodic" as "[d]enoting any variable quantity that has regularly recurring values with *respect to equal increments of some independent variable, such as time.* The interval between two successive repetitions is the period." Ex. I at ASSIA_CHARTER-00033815 (emphasis added); Pooley Dec., ¶ 76. Similarly, a "periodic signal" is defined as "a signal that repeats itself at regular intervals." *Id*. Thus, the plain meaning of "periodically" is "at fixed intervals."

The word "periodically" is also used in the '996 patent specification in a way that makes clear it refers to a fixed interval. *See* '996 patent at 13:21–23 (discussing systems that "periodically" acquire the number of CRC values "at 15 minute intervals"), *see also id.* at 4:59-60, 5:60-61, 9:38-39 (referring to "fixed period(s) of time"); 11:18 (discussing "given period of time"); 12:51 (discussing a "given time period"); 17:20–22 ("Alternatively, means 642 can generate the input signal 643 in a sampled or periodic fashion, on a random or non-random basis."); Pooley Dec., ¶ 75.[3] This demonstrates that periodic events in the '996 patent occur at fixed intervals (*i.e.,* fixed "periods" of time), such as 15 minutes.

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[3] The patent does use the word "period" other times, but in other contexts. *See* '996 patent at 11:21 (discussing a brief period of interference), 12:11 (discussing a "long period" of interference).

The doctrine of claim differentiation further supports this meaning. The '996 patent uses the word "repeatedly" in several claims to refer to acquiring error information. Ex. A ('996 patent) at claim 1 ("a means, coupled with the DSL modem, for repeatedly acquiring . . . "); *see also id.* claims 10-13, 17, 18. By contrast, claim 20 recites the distinct term "periodically" in the phrases "periodically monitor" and "periodically monitored." Under the doctrine of claim differentiation, "when . . . applicant[s] use[] different terms in a claim it is permissible to infer that [they] intended [their] choice of different terms to reflect a differentiation in the meaning of those terms." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004). The patent thus differentiates "periodically" from "repeatedly," signifying that "periodically" refers to fixed intervals rather than repeated, irregular occurrences.

The colloquial use of "periodic" differs from its technical meaning understood by those skilled in the art. While a layperson might conflate "periodically" with "repeatedly," the specification, claims, and the sole technical dictionary in evidence clarify that 'periodically' in this context means "at fixed intervals." *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co. Ltd.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (noting that while some claim terms may be clear to lay judges, technical terms often require interpretation based on their meaning to skilled artisans). This distinction is well-established and underscores the precision required in patent language.

ASSIA's proposed construction is also consistent with Federal Circuit precedent, which has construed "periodically" in the electronics context to mean "at regular intervals of time." *See* Final Written Decision at 6-8, *Apple Inc. v. Andrea Elecs. Corp.*, Case No. IPR2017-00627 (P.T.A.B. July 12, 2018), Paper 23, *aff'd in relevant part*, *Apple Inc. v. Andrea Elecs. Corp.*, 949 F.3d 697, 707 (Fed. Cir. 2020).

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As demonstrated by the intrinsic evidence and the plain meaning of "periodically," the term clearly refers to fixed intervals. Therefore, in the context of the '996 patent, "periodically monitor" / "periodically monitored" means "monitor/monitored at fixed intervals of time."

## V.    DISPUTED TERMS OF THE '398 PATENT

### A.    "processed data" ('398 patent, claim 1 and '313 patent, claim 19)

| ASSIA's proposed construction | Charter's proposed construction |
|---|---|
| No construction necessary; plain and ordinary meaning, which need not include all of the "collective processed data from the plurality of communication units" | "collective processed data from the plurality of communication units" |

Charter improperly attempts to limit "processed data," which is used to determine a policy for one or more communication units, by adding two qualifiers that are not in the claim and improperly change its meaning and scope: (i) "*collective* processed data (ii) *from the plurality of communication units*." The Court should decline Charter's attempt to add these unsupported limitations and instead accord this term its plain and ordinary meaning. By rewriting the claims in this manner, Charter impermissibly limits the operation of the claimed "server" beyond what is contemplated in the intrinsic record. Charter cannot show any "expression[] of manifest exclusion or restriction, representing a clear disavowal of claim scope" that could justify doing so. *Cont'l Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (quotations omitted).

"Processed data" is the result of a sequence of steps recited in claim 1 of the '398 patent and claim 19 of the '313 patent. Specifically, a server "receiv[es], . . . data associated with an operation of **two or more** communication units." Ex. B ('398 patent) at 18:22-26 (emphasis added). Claim 1 of the '398 patent further requires that these units be "located in different geographical areas" and subsequently, the server "process[es], . . . at least one of the data and historical data." *Id.* Claim 19 of the '313 patent requires that the server "process[es], . . . the

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received data." Ex. C ('313 patent) at 20:14. In both claims, "[b]ased on the processed data," the

server "determin[es] a policy for **<u>at least one of the two</u>** or more communication units" where the

"policy" is communicat[ed] "to at least one or more communication units" to "improve a

performance" of those communication units. Ex. B ('398 patent) at claim 1; Ex. C ('313 patent) at

claim 19 (emphasis added).

Charter seeks to require that the "processed data" includes "**<u>collective</u>** processed data from

the plurality of communication units." Charter's proposal is not supported by the specification and

claims for at least two reasons. First, there is no such thing as "<u>processed</u> data from the plurality

of communication units." Instead, there is, initially, "data associated with an operation of two or

more communication units" that is received by the server. Ex. B ('398 patent) at 18:23-24, Ex. C

('313 patent) at 20:10-11. However, the server subsequently processes "at least one of the data and

historical data" (claim 1 of the '398 patent) or "the received data" (claim 19 of the '313 patent).

This processing could entail filtering, grouping, and excluding data such that only data for a

particular communication unit or group of communication units, or within a certain timeframe is

ultimately used in determining the policy. As such, the "processed data" that the server uses to

determine the policy, while *based upon* the data received, cannot be said to be "data from the

plurality of communications units," as Charter's incorrect construction suggests. Thus, Charter's

proposed addition of the word "collective" is improper.

Further, Charter's "collective processed data" proposal seeks to require all data (whether

current or historical) originally received by the server from communication units to be processed

for purposes of determining a policy. But neither claim 1 of the '398 patent nor claim 19 of the

'313 patent requires the server to consider both current and historical data. Indeed, claim 1 of the

'398 patent explicitly states that the server need only process "one of the data and historical data,"

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and as such the server is free to process the data in such a way that it disregards one or the other in determining the policy. Ex. B ('398 patent) at claim 1.

Charter's proposed construction of "processed data" effectively reads out a preferred embodiment from the claims, which is "rarely, if ever correct. . . ." *Kaufman v. Microsoft Corp.*, 34 F.4th 1360, 1372 (Fed. Cir. 2022) (citation omitted). While the specification does envision a "policy generated by the remote server 204 [that] is a result of analyzing hundreds (or even millions) of similarly situated communication units" (*id.* at 7:40-42), this exemplary approach does not preclude the remote server 204 from also receiving data from **non-similarly situated** communication units and generating independent policies for those units, or alternatively setting aside data for those units. Rather, the specification merely describes a permissive embodiment in which the server **may** consider data concerning the operation of other similarly situated communication units.

Charter's construction would improperly preclude such operation of the server by requiring the policy to consider all data concerning all communication units, whether similarly situated or not. When data from even a single non-similarly situated communication unit is introduced, the server would no longer satisfy the claim based on Charter's contrived (and incorrect) construction. Forcing the server to consider all data from similarly and non-similarly situated communication units also limits the server's ability to adapt to "actual operational environments" as emphasized in the specification. Ex. B ('398 patent) at 2:10.

The Court should therefore reject Charter's attempt to rewrite "processed data," and instead adopt its plain and ordinary meaning.

**B.** **"the data further comprises determining a received signal strength indication" ('398 patent, claim 2)**

| ASSIA's proposed construction | Charter's proposed construction |
|---|---|
| No construction necessary; plain and ordinary meaning | Indefinite |

The scope and meaning of dependent claim 2 are clear and become even clearer when the term "data" is read in the context of independent claim 1. Claim 1 is a method claim that includes a number of steps, including a "receiving step" and a "processing step," both of which are performed by a server and recite the term "data": (1) "receiving, by a server, from network monitoring devices that monitor, in real-time, **data** associated with an operation of two or more communication units . . . ;" and (2) "processing, by the server, at least one of the **data** and historical data." Ex. B ('398 patent) at 18:23-28 (emphasis added. When the language from claim 2 is read in conjunction with the steps of claim 1, as it expressly incorporates the method of claim 1, it becomes clear that the server is responsible for carrying out an additional step of "determining a received signal strength indication." *Id.* at claims 1-2; Pooley Dec., ¶¶ 49-55. But whether the step is carried out as part of "receiving" or "processing" does not create any uncertainty as to the scope of the claims because the claim language does not require an order in which the "determining" step must be performed relative to "receiving" or "processing." *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003); Pooley Dec., ¶¶ 53-55.

Therefore, a POSITA in the art would understand the scope of claim 2, including the disputed term, with reasonable certainty based on the intrinsic record, in particular claim 1. Pooley Dec., ¶ 56.

## VI. DISPUTED TERM OF THE '313 PATENT

### A. "processed data"

*See* Section V.A, *supra*.

## VII.    DISPUTED TERMS OF THE '654 PATENT

### A.    "on-demand change request" ('654 patent, Claims 1, 18)

| ASSIA's Proposed Construction | Charter's Proposed Construction |
|---|---|
| Plain and ordinary meaning | "an active step, performed by the downloadable agent, to request change" |

"On-demand change request" should be given its plain and ordinary meaning. Charter's proposed construction mischaracterizes a statement made by the applicant in the file history regarding claim 1. A correct interpretation of the applicant's statements reveals that the applicant did not disavow claim scope as Charter argues. Additionally, the relevant file history statements do not even apply to claim 18.

Under Federal Circuit caselaw, "[f]or a statement during prosecution to qualify as a disavowal of claim scope, it must be 'so clear as to show reasonable clarity and deliberateness,' and 'so unmistakable as to be unambiguous evidence of disclaimer.'" *Genuine Enabling Tech. LLC v. Nintendo Co.*, 29 F.4th 1365, 1374 (Fed. Cir. 2022) (*quoting Omega Eng'g, Inc, v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003). The applicant's statements during prosecution here, which Charter incorrectly interprets, do not meet this standard.

During prosecution, the applicant appealed a rejection of the claims to the PTAB, arguing that the prior art did not disclose the following limitation of claim 1:

> A method performed by a downloadable agent, the method comprising: . . . **sending an on-demand change request associated with at least one of throughput, or latency**."

Ex. D ('654 Patent) at claim 1 (emphasis added). In its Reply Brief to the PTAB, the applicant explained that "the element of '***sending an on-demand change request*** associated with at least one of throughput, or latency' ***is an active step***, performed by the downloadable agent, to request change for at least one of throughput or latency." Ex. J at 6 (emphasis added). Analyzing the

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applicant's statement in context it is apparent that the first portion of the applicant's statement—"active step, performed by the downloadable agent"—applies to the step of *sending* the on-demand change request, not to the on-demand change request itself. *Id.* The second portion of the applicant's statement—"to request change for at least one of throughput or latency"—describes the purpose of the on-demand change request. *Id.* Charter's proposed construction misconstrues the applicant's statement and incorrectly associates the "active step" language with the claimed "on-demand change request" rather than the step of "sending."

Charter's proposed construction is also contrary to the plain and ordinary meaning of the claim language. With respect to claim 1, the plain meaning of the phrase "sending an on-demand change request" requires the downloadable agent to perform the step of "sending." Ex. D ('654 patent) at 25:40-41. Charter's proposed construction would also require the downloadable agent to perform the "on-demand change request." It makes no sense in the context of the claim for the downloadable agent to perform both the "sending" and the "on-demand change request." Furthermore, the "on-demand change request" is the direct object in the phrase. Contrary to Charter's position , a direct object is a noun, not a verb, and thus it should not be construed as "an active step" that is "performed."

With respect to claim 18, Charter's proposed construction make even less sense. In claim 18, the relevant phrase recites a *server* that is operable to *receive* an on-demand change request:

> A system, comprising: . . . a server . . . wherein **the server is operable to receive an on-demand change request associated with at least one of: throughput, or latency**.

Ex. D ('654 patent) at claim 18 (emphasis added). The plain and ordinary meaning of claim 18 thus requires a server that *receives* an on-demand change request but does not require a downloadable agent to *send* an on-demand change request as does claim 1. Additionally, in claim

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18 the on-demand change request is a thing that is received by the server, it is not a step that is performed at all. In this context, Charter's proposed construction, which would require a downloadable agent to perform the on-demand change request, is contrary to the plain and ordinary meaning of the claim language.

Nothing in the prosecution history disavows the scope of claim 18 as Charter proposes. As discussed above with respect to claim 1, Charter misconstrues the applicant's prosecution history statement, which in fact explained that the *sending* step of claim 1, not the on-demand change request, is an *active step* performed by the downloadable agent. Second, the relevant prosecution history statements were explicitly made in the context of claim 1, not claim 18. Ex. J at 5-7. The applicant's statement even quotes the language of claim 1—"the element of 'sending an on-demand change request associated with at least one of throughput, or latency'"—leaving no doubt as to what claim and limitation the statement addressed. *Id.* at 6. Although the applicant also stated that "the above mentioned remarks in regarding to amended claim 1 are also applicable to amended independent claim 20," (*id.* at 7) the most reasonable interpretation of this statement is that claim 18 traverses the prior art because the prior art does not disclose an on-demand change request at all, not that the claim requires the downloadable agent to perform the on-demand change request.[4] The applicant's statement is certainly not "'so clear as to show reasonable clarity and deliberateness,' and 'so unmistakable as to be unambiguous evidence of disclaimer.'" *Genuine Enabling Tech.*, 29 F.4th at 1374 (quotations omitted). Therefore, there is no basis to narrow the scope of the claims as Charter proposes.

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[4] Issued claim 18 was claim 21 during prosecution. Here, the applicant appears to have mistakenly referred to prosecution claim 21 as claim 20. Ex. J at 7.

**B.**    **"WAN performance information" ('654 patent, Claims 1, 3, 8, 16, 18, 20, 33, 36)**

| ASSIA's Proposed Construction | Charter's Proposed Construction |
|---|---|
| Plain and ordinary meaning | "data related to the communication links within the WAN, which does not include data related to transactions at the application layer related to client-server transactions that are executed" |

Charter's proposed construction improperly attempts to limit the scope of the term to examples that the applicant provided during prosecution. When analyzed in context, it is readily apparent that the applicant's statements do not meet the exacting standard for prosecution history disclaimer.

With respect to the first part of Charter's construction – "data related to the communication links within the WAN" – the relevant portion of the file history is the December 28, 2016 response to a rejection, where the applicant submitted the following argument, explaining that the term "collecting WAN performance information" of claim 1 refers to "gathering information related to the WAN:"

> Conversely, **claim 1 recites "collecting WAN performance information"** while as is shown above, Zhao allegedly discloses methods of gathering information from a web browser to monitor one or more parameters "associated with client-server transactions". It is well known to those skilled in the art that client-server transactions are associated with communications between applications running on two computing devices, that is at the application layer of a communications stack, while **the "WAN performance information" of claim 1 refers to gathering information related to the WAN**.

Ex. K at 20 (emphasis added). In the same paragraph, the applicant also provided the following *examples* of "WAN performance information:"

> **For example**, information such as physical, link, IP, and TCP layers of a communications stack. Such data, **for example**, is data specifically related to the communications links within the WAN, and not the transactions at the application layer related to "client-server transactions that are executed". See, for example, paragraph [0016] of the pending application.

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*Id.* (emphasis added). Charter's proposed construction is taken from this list of examples that the applicant provided.

Under Federal Circuit caselaw, "[f]or a statement during prosecution to qualify as a disavowal of claim scope, it must be 'so clear as to show reasonable clarity and deliberateness,' and 'so unmistakable as to be unambiguous evidence of disclaimer.'" *Genuine Enabling Tech.*, 29 F.4th at 1374 (*quoting Omega Eng'g,* 334 F.3d at 1325. The applicant's statements setting forth *examples* of WAN performance information do not meet this exacting standard. The Federal Circuit has held that statements to the PTO with words such as "for example" are "not the 'clear and unmistakable' statements necessary for disclaimer." *In re Lockwood*, 679 F. App'x 1021, 1027 (Fed. Cir. 2017). Furthermore, the applicant's affirmative statement that "the 'WAN performance information' of claim 1 refers to gathering information related to the WAN," directly undermines Charter's argument. Ex. K at 20. This statement provides a broad characterization of the term and demonstrates that the applicant intended for the term to have the full scope of its plain and ordinary meaning.

Consistent with the applicant's statements during prosecution, the specification of the '654 patent demonstrates that "WAN performance information" should be accorded the full scope of its plain and ordinary meaning. The specification describes an embodiment in which "WAN performance information" covers a broad range of information, contrary to Charter's proposed construction:

> In one embodiment, the ***WAN performance information includes at least one of***: topological information, geographical information, throughput, latency, jitter, packet loss, time, type of communication device, device network identification, manufacturer and model of equipment, equipment characteristics, firmware, user's network usage pattern, user's provisioned WAN service, RF characteristics including at least one of: signal power, frequency bands and mode of operation, environment statistics, or data on operation of communication devices.

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Ex. D ('654 patent) at 17:42-52 (emphasis added). This embodiment includes categories of information, such as "geographical information," "equipment characteristics," and "firmware," that do not fall within Charter's narrow proposed construction.

The second part of Charter's proposed construction – "which does not include data related to transactions at the application layer related to client-server transactions that are executed" – improperly narrows the scope of the claim based on statements in the prosecution history that relied on the plain meaning of the term. In the December 28, 2016 Response, the applicant explained that Zhao's disclosure of gathering information from a web browser did not disclose collecting WAN performance information:

> Conversely, claim 1 recites "collecting WAN performance information" while as is shown above, **Zhao allegedly discloses** methods **of gathering information from a web browser to monitor one or more parameters "associated with client-server transactions**". It is well known to those skilled in the art that **client-server transaction are associated with communications between applications running on two computing devices**, that is **at the application layer of a communications stack, while the "WAN performance information" of claim 1 refers to gathering information related to the WAN.** For example, information such as physical, link, IP, and TCP layers of a communications stack. Such data, for example, is data specifically related to the communications links within the WAN, and **not the transactions at the application layer related to "client-server transactions that are executed"**.

Ex. K at 20 (emphasis added). In a subsequent Response to a rejection, the applicant further clarified that the key distinction over Zhao with respect to this limitation was that Zhao disclosed collecting data related to the performance of the client software rather than the performance of the WAN:

> **The performance data disclosed by Zhao is related to a client instead of WAN**. For example, Zhao discloses in [0010] that "The software application is configured to monitor one or more performance parameters of the client associated with client-server transactions that are executed. . . . **It is obvious that the "performance parameters" in Zhao is generated at a client by an application software installed at the client**. The "performance parameters" are associated with client-server transactions. While on the contrary, in Applicant's claim 1, the

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downloadable agent just collects the WAN performance information. **The WAN performance is related to the performance of the WAN network instead of the performance of a client**.

Ex. L at 14-15 (emphasis added). Examining the entirety of the applicant's statements across both office action responses, it is apparent that the applicant distinguished Zhao on the basis that it taught gathering information about the performance of the client software, not information about the performance of the WAN. *Id.* Viewed in context, the applicant's statements did not disavow claim scope but rather simply explained that Zhao did not disclose the plain and ordinary meaning of the term. *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1342 (Fed. Cir. 2009), *amended on reh'g in part*, 366 F. App'x 154 (Fed. Cir. 2009) ("Even if an isolated statement appears to disclaim subject matter, the prosecution history as a whole may demonstrate that the patentee committed no clear and unmistakable disclaimer.").

Therefore, considering the disclosures of the '654 patent's specification and file history, there is no legal basis for narrowing the claim term as proposed by Charter.

### C.   "collect LAN performance data from at least one of the computing device and other device" ('654 patent, claims 4, 21)

| ASSIA's Proposed Construction | Charter's Proposed Construction |
|---|---|
| Plain and ordinary meaning | Indefinite |

The issue is whether claims 4 and 21 are indefinite for lack of antecedent basis for the term "other device." They are not. Here, the "another device" recited in claims 1 and 18 provides explicit antecedent basis for "other device" in dependent claims 4 and 21, respectively.[5]

Dependent claim 4 recites "wherein the downloadable agent is operable to collect LAN performance data from at least one of *the computing device* and *other device coupled to the LAN*."

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[5] The analysis for Claim 4 and corresponding independent claim 1 also applies to claim 21 and corresponding independent claim 18, which include similar claim language.

Ex. D ('654 patent) at 25:47-50 (emphasis added). A POSITA would understand that the terms "the computing device" and "other device" refer to the "computing device" and "another device" of claim 1, respectively, found in the phrase reproduced below:

> wherein the downloadable agent is executable on ***a computing device*** coupled to a LAN of a broadband subscriber, wherein the LAN is coupled by ***another device*** to a WAN;

*Id.* at claims 1, 18 (emphasis added); Kramer Dec., ¶¶ 69-72. In the context of the claim language, it is apparent that the "other device" of dependent claim 4 refers to the "another device" of claim 1. According to Charter, a POSITA would not be able to determine what the "other device" means because claim 1 recites "another device" instead of "an other" device. But "an other" and "another" mean the same thing, with or without the space. Additionally, basic grammar dictates that "an other" should be written as "another."

The surrounding claim language supports this conclusion. Claims 1 and 4 recite two devices: a "computing device" and one other device that is coupled to the LAN or couples the LAN to a WAN. Specifically, claim 4 recites that the "other device" is "*coupled to the LAN.*" Ex. D ('654 patent) at 25:47-50. Similarly, claim 1 recites "that "*the LAN is coupled by another device* to a WAN." *Id.* at 25:28-29. This additional similarity between the "other device" of claim 4 and "another device" of claim 1 further supports the conclusion that they are the same "device." Kramer Dec., ¶ 73.

The specification also supports the conclusion that the "another device" of claim 1 provides antecedent basis for the "other device" of claim 4. The specification uses the same language in describing the computing device and other device coupled to the LAN in the context of describing FIG. 3:

> At block 301, the DA 102 collects WAN performance information, wherein the DA 102 is executable on a computing device (e.g., 101*c*) coupled to a LAN 111 of a

> broadband subscriber, **wherein the <u>LAN 111 is coupled by another device (e.g., PC 113) to a WAN 112</u>**. At block 302, the DA 102 transmits the WAN performance information to a machine (e.g., server 105). At block 303, the DA 102 is operable to collect LAN performance data from at least one of the computing device (e.g., 101*c*) **<u>and the other device (e.g., PC 113) coupled to the LAN 111</u>**.

Ex. D ('654 patent) at 9:62-10:4 (emphasis added). In this passage, the specification explicitly states that the "another device" and "other device" are the same exact device, namely "PC 113." Kramer Dec., ¶ 75.

Finally, even if the Court decides that explicit antecedent basis is lacking, the "another device" of claim 1 provides at least implicit antecedent basis. Under Federal Circuit law, "despite the absence of explicit antecedent basis, '[i]f the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite.'" *Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1370–71 (Fed. Cir. 2006) (quoting *Bose Corp. v. JBL, Inc.,* 274 F.3d 1354, 1359 (Fed. Cir. 2001)); see also *WAPP Tech Ltd. P'ship v. JPMorgan Chase Bank, N.A.*, No. 4:23-CV-1137, 2024 WL 4828080, at *18 (E.D. Tex. Nov. 19, 2024) (rejecting indefiniteness argument because "the recital of 'a simulation of the mobile device,' provides reasonably clear implicit antecedent basis.") (citing *Energizer Holdings*, 435 F.3d at 1371). For the reasons set forth above, a POSITA would be able to reasonably ascertain that the "other device" of claim 4 and the "another device" of claim 1 refer to the same device.

Therefore, in the context of the claim language and the specification, the "another device" term of claim 1 provides antecedent basis for the "other device" of claim 4.

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## VIII.   DISPUTED TERMS OF THE '108 PATENT

### A.     "identifying one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN" ('108 patent, Claim 1)

| ASSIA's Proposed Construction | Charter's Proposed Construction |
|---|---|
| Plain and ordinary meaning | "identifying one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification" |

This term should be accorded its plain and ordinary meaning. Charter's proposed construction rewrites the claim in an attempt to require the operating condition on the WAN to be in a different layer from "any of" the communication layers on the LAN, rather than the recited "one or more" communication layers on the LAN. Because there is no lexicography or disavowal of claim scope in the specification, the Court should reject Charter's proposed construction.

The limitation at issue recites "the one or more communication layers on the LAN" whose antecedent basis is provided in the previous limitation. Both limitations, reproduced below, must be analyzed together to put the term in in the proper context:

collecting LAN information from **one or more** communication layers on the LAN; and

identifying one or more operational conditions within the WAN in a different communication layer from the **one or more** communication layers on the LAN by analyzing at least the collected LAN information.

Ex. E ('108 patent) at claim 1 (emphasis added).

Charter's proposed construction attempts to introduce the requirement of perfect exclusivity between the communication layers on the LAN from which information is collected and analyzed and the layer on the WAN on which the one or more operating conditions is identified. But that reading is contrary to both the plain language of the claim and basic tenets of claim construction concerning the phrase "one or more." Charter's proposed construction is the

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equivalent of modifying the claim by swapping out "one or more" and replacing it with "each and every" as follows: "identifying one or more operational conditions within the WAN in a different communication layer from ~~the one or more~~ <u>each and every</u> communication layer~~s~~ on the LAN" from which LAN information was collected. Charter's construction clearly contradicts the plain meaning of the claim language.

The plain meaning of the claim language does not require the perfect exclusivity Charter seeks to impose. Because the term "one or more" is satisfied by one communication layer, the claim language merely requires identifying an operating condition in a WAN communication layer that is different from *one* LAN communication layer for which LAN information was collected and analyzed. This satisfies the claim even if LAN information is also collected and analyzed from the same layer as the layer of the WAN on which the operating condition is identified.[6] As the claim recites, the WAN operating condition must be on a different layer than "one or more", as opposed to "each and every," communication layer(s) on the LAN for which LAN information was collected and analyzed.

The diagram below illustrates the plain meaning of the claim language through an example. The left side of the diagram indicates that LAN information is collected from communication layers one and two of the LAN. Each of these layers separately satisfy the "one or more communication layers of the LAN" limitation. The right side indicates that an operating condition has been identified in layer one of the WAN by analyzing the LAN information from layers one

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[6] The dispute could alternatively be characterized as a dispute about the meaning of the term "by analyzing at least the collected LAN information." Charter improperly seeks to read this term to **mandatorily** encompass **all** collected LAN information. However, because the prior limitation recites "collecting LAN information from **one or more** communication layers on the LAN," the collected LAN information can refer to LAN information collected at one LAN communication layer only, even when information is also collected at additional LAN communication layers.

and two. Because LAN information from *layer two* of the LAN was used to identify an operating condition on *layer one* (i.e., a different layer) of the WAN, the claim is satisfied.
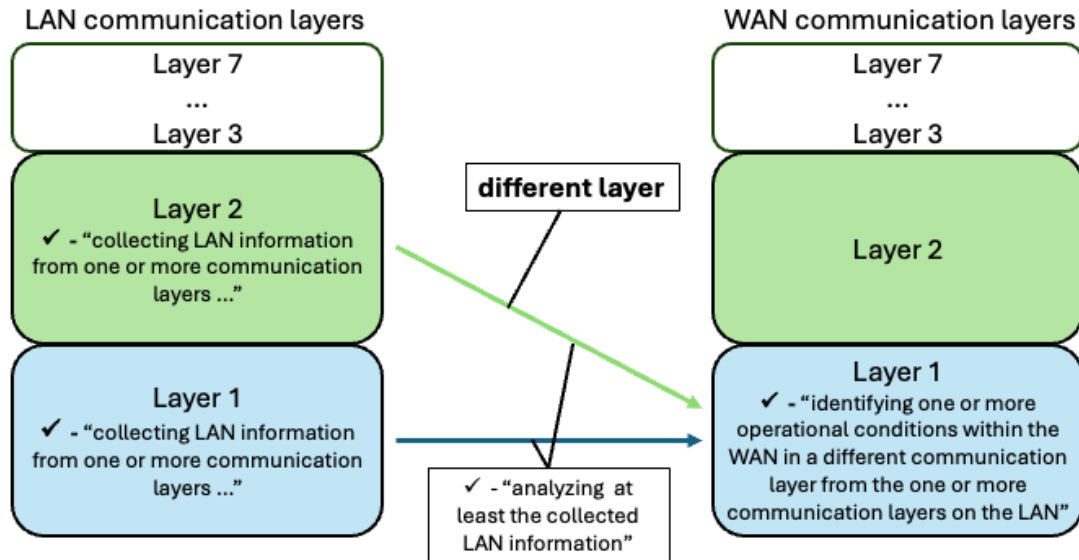


The example above is consistent with the description of the invention in the specification, which explains that "information from one layer on the WAN 205 may be used to diagnose or improve the performance on a different layer on the LAN 210, or vice versa." Ex. E ('108 patent) at 17:5-7. The specification further explains that "[i]n the above examples, information on the networking layer of the LAN 210 is used to configure settings at the physical layer on the WAN 205. Similarly, information and data collected from other layers may be incorporated." *Id.*, 17:65-18:1. Thus, the plain and ordinary meaning of claim 1 expresses the same inventive concept as the specification, which is that information from a layer of the LAN is used to identify a condition on a different layer of the WAN.

There is no basis for limiting the scope of the claims as Charter proposes. Under Federal Circuit law, the patentee is entitled to the full scope of the claims absent "lexicography or disavowal," which requires that "a patentee must clearly set forth a definition of the disputed claim

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term other than its plain and ordinary meaning and must clearly express an intent to redefine the

term." *Apple Inc. v. Wi-LAN Inc.*, 25 F.4th 960, 967 (Fed. Cir. 2022) (quotations omitted). Here,

the specification's discussion of using LAN information from certain layers to diagnose a different

layer on the WAN does not "express an intent to redefine the term" or use "words or expressions

of manifest exclusion or restriction." *Id.*

While the specification does describe embodiments in which there is no overlap between

the communication layers for which LAN information was collected and the communication layer

of the WAN in which the operating condition is identified, the specification explicitly refers to

these as examples, not as limitations on the claimed invention:

> ***In one example***, a management event may include adjusting settings and
> configurations on a WAN 205 (for example a DSL network) in response to the
> analysis. **Information collected from the LAN 210 may be from** different layers
> of the LAN 210, such as from **the application layer and the networking layer**.
> **The settings and configuration on the DSL system may be implemented at the
> physical layer,** by setting physical layer parameters of the DSL system.

Ex. E ('108 patent) at 17:13-21 (emphasis added).

> ***In another example***, **data and information may be collected at a networking
> layer, or TCP/IP layer from the LAN 210**. . . . In a particular case, where the
> WAN 205 is a DSL connection, the DSL link settings and configuration could be
> changed[.] … **DSL connection setting may be implemented at the physical
> layer.**

*Id.* at 17:36-53. (emphasis added)

> ***In the above examples***, **information on the networking layer of the LAN 210 is
> used to configure settings at the physical layer on the WAN 205**.

*Id.* at 17:65-67 (emphasis added). Such embodiments do not constitute "clear and unmistakable

disclaimer." *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1366-67 (Fed Cir. 2012).

Furthermore, the specification states that the embodiments are "illustrative, and not restrictive"

and that the claims "are not limited to the explicitly enumerated embodiments disclosed." Ex. E

('108 patent) at 27:46-58. Therefore, Charter's proposed limitation should not be read in from these preferred embodiments. *Bayer AG v. Biovail Corp.*, 279 F.3d 1340, 1348 (Fed. Cir. 2002) ("[A" court may not read into a claim a limitation from a preferred embodiment, if that limitation is not present in the claim itself.").

Therefore, Charter's proposed construction improperly narrows the plain and ordinary meaning of the claim language and should be rejected.

**B.    "identifying, at the management device, one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN" ('108 patent, Claims 8, 15)**

| ASSIA's Proposed Construction | Charter's Proposed Construction |
| --- | --- |
| Plain and ordinary meaning | "identifying, at the management device, one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification" |

This term presents the same issue as the term addressed above in Section VIII.A, *supra*, and the same analysis applies. The relevant claim language of claims 8 and 15, reproduced below, is similar to that of claim 1 in all respects relevant to the parties' dispute:

> collecting, at the management device, LAN information from one or more communication layers on the LAN; and
>
> **identifying, at the management device, one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN** by analyzing at least the collected LAN information.

Ex. E ('108 patent) at claims 8, 15 (emphasis added). Because any subset of the collected LAN information on one or more communication layers of the LAN used to make that identification satisfies the claim, the one or more operational conditions within the WAN need only be in a different layer than any subset of the collected LAN information. Section VIII.A, *supra*. The Court should, therefore, reject Charter's proposed construction.

### C.    "WAN rate" ('108 patent, Claims 3, 10, 17)

| ASSIA's Proposed Construction | Charter's Proposed Construction |
|---|---|
| Plain and ordinary meaning | Indefinite |

The meaning of the term "WAN rate" is readily ascertainable to a POSITA and, therefore, not indefinite. In the context of the '108 patent, a POSITA would have understood that claim 3's "WAN rate" refers to the Wide Area Network (WAN) data rate, or data rate of the WAN. *Id*. This is consistent with the customary usage of the term "WAN rate" by those of ordinary skill in the field of electronic communication systems. Kramer Dec., ¶ 90, *see id*. ¶¶ 91-92.

The '108 patent's specification confirms that the "WAN rate" of claim 3 means the WAN data rate. Claim 3 recites "[t]he management device of claim 2 wherein initiating the management event comprises one or more of: d**ecreasing WAN rate to improve link stability and quality**[.]"[7] Ex. E ('108 patent) at 28:23-29. The term "WAN rate" is used in the context of claims that recite that initiating a management event can comprise "decreasing WAN rate to improve link stability." *Id.* at claims 3, 10 and 17. Consistent with this recital, the '108 specification discusses improving the stability and quality of links in a computer communications network by decreasing the WAN data rate. For example, in the context of a DSL link, the specification states that "**the DSL rate may be decreased** to improve the link stability and quality, . . ." *Id.* at 19:16-19 (emphasis added). Kramer Dec., ¶¶ 96-99. In this context, DSL is a type of WAN. Kramer Dec., ¶ 98. Thus, the usage of the term "WAN rate" in claim 3 is simply a more generic version of the term "DSL rate" used in the specification. The specification also provides a more detailed discussion of an exemplary DSL-based WAN connection, explaining that the connection stability can be improved by decreasing the data rate of the WAN:

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[7] The analysis provided with respect to claim 3 equally applies to claims 10 and 17.

> If the WAN supports a higher throughput, the Management device 170 may initiate a management event to the WAN controller, such as a DSL system controller on the CPE side or CO side, demanding an increase in the supported data rate or throughput. … ***In such a case, it is possible that a <u>DSL based WAN link</u> is*** not only wasting power, but ***may additionally be more prone to instability***. ***<u>DSL links are more susceptible to noise and other impairments when operating at high data rates</u>*** because they are typically operating at lower margins. ***<u>In such a case, Management device 170 initiates a management event</u>***, sending instructions to the WAN (such as DSL controller) <u>***to lower the data rate on the WAN side, making the WAN connection more stable***</u>.

Ex. E ('108 patent) at 20:1-18 (emphasis added). This passage explains that the WAN (in this case, a DSL connection) data rate can be lowered to improve link stability. Kramer Dec., ¶ 98. This tracks claim 3's recital of "decreasing WAN rate to improve link stability and quality[.]" Ex. E ('108 patent) at claim 3. Thus, in the context of the specification, a POSITA would understand that the "WAN rate" of claim 3 means "WAN data rate." Kramer Dec., ¶ 99.

In this context, that claims 4, 11, and 18 recite the term "WAN data rate" does not compel the conclusion that "WAN rate" of claims 3, 10, and 17 has a different meaning. "[T]he presumption created by the doctrine of claim differentiation is not a hard and fast rule and will be overcome by a contrary construction dictated by the written description[.]" *Regents of Univ. of Cal. v. Dakocytomation Cal., Inc.*, 517 F.3d 1364, 1375 (Fed. Cir. 2008) (quotation omitted). Here, analyzing the claims and specification as a whole, a POSITA would understand that the '108 patent uses the terms "WAN rate" and "WAN data rate" interchangeably. Kramer Dec., ¶¶ 90-92. Therefore, any presumption created by the doctrine of claim differentiation is overcome.

The interpretation of "WAN rate" described above is consistent with the customary usage of the term WAN rate by persons of ordinary skill in the field. *Id.* at ¶ 90. A person of skill would have understood that a WAN data rate would be expressed as an amount of data per unit of time, such as 100 Megabits per second (100 Mbps) or 1 Gigabit per second (1 Gbps). *Id.* at ¶ 91. Publications such as research articles, presentations to standards setting bodies, and user manuals

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routinely refer to the WAN data rate as the "WAN rate." *Id.* at ¶¶ 101-110. Some examples include: (1) a 1999 IEEE 802.3 High Speed Study Meeting presentation, titled "LAN and **WAN rate 10 GigE**," which refers to 10 Gigabits/second data rate; (2) a 2005 IEEE article that uses "**WAN rate**" to refer to the data rate of the WAN in Megabits/second (**Mbps**); (3) a 2012 IEEE Communications Magazine article stating "IEEE 802.3ae-2002 subsequently defined two 10G Ethernet rates; ~ 10.3 Gb/s LAN rate for data center applications, and **~10 Gb/s wide area network (WAN) rate** for Transport."; and (4) a 2020 Cisco Systems Datasheet for "10 Gigabit Ethernet applications" that states "**10 Gigabit Ethernet WAN rate.**" Kramer Dec., ¶ 102 (Ex. P), ¶¶ 104-105 (Ex. R & S), ¶ 108 (Ex. V); *see also* ¶ 103 (Ex. Q), ¶¶ 106-107 (Exs. T & U), ¶ 109 (Ex. W).

Additionally, Charter had no trouble interpreting "WAN rate" in its IPR petition against the '108 patent. There, Charter stated: "For example, Chow-669 discloses: 'Alternatively, **DSL rate may be decreased to improve link stability and quality**. Other management events could include higher INP (Impulse Noise Protection) parameter setting, improved margin parameter settings and/or power parameter settings.'" Ex. X at 36 (citation omitted). The statement "DSL rate may be decreased to improve link stability and quality" tracks claim 3's "decreasing WAN rate to improve link stability and quality." Ex. E ('654 patent) at claim 3. Further, Charter's expert in the IPR never questioned a POSITA's understanding of "WAN rate" and instead testified that, with respect to claim 3, a "POSITA would have understood that these parameters [i.e., inclusive of parameter WAN rate] may be increased or decreased." Ex. Y at 75, ¶ 191; Kramer Dec., ¶ 100.

Therefore, in light of the intrinsic and extrinsic evidence, the meaning of WAN rate would have been readily ascertainable to a POSITA and is not indefinite.

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Respectfully submitted,

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## CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing document was filed electronically in compliance with Local Rule CV-5(a). Therefore, this document was served on all counsel of record who are deemed to have consented to electronic service on February 7, 2025.

/s/ Robert Kramer